CS 62 Quiz 6

April 3, 2015

Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Define *parallelism*. Define *concurrency*.

2. Consider carefully the following code for the BankAccount class:

public class BankAccount{

private int balance = 0;

synchronized int getBalance(){

return balance;

}

synchronized void setBalance(int x) {

balance = x;

}

void withdraw(int amount) {

int b = getBalance();

if(amount > b)

throw new WithdrawTooLargeException();

setBalance(b-amount);

}

...

}

If multiple threads tried to access the same bank account, it is possible to have:

1. bad interleavings but no data races
2. data races but no bad interleavings
3. **both** bad interleavings and data races
4. **neither** bad interleavings nor data races